

## AMENDMENTS

### In the claims:

1. (Currently Amended) A method for at least reducing the mineral content of a vascular calcified lesion, said method comprising:

maintaining the local environment of said calcified lesion at a subphysiologic pH for a period of time sufficient for the mineral content of said calcified lesion to be reduced, wherein the local environment of said calcified lesion is maintained at a subphysiologic pH by introducing an acidic dissolution fluid having a pH ranging from 0 to 1 into said local environment;

whereby the mineral content of said calcified lesion is reduced.

Claim 2. (Cancelled)

3. (Currently Amended) The method according to Claim 1 [[2]], wherein said introducing comprises flushing said calcified lesion with said dissolution fluid.

4. (Original) The method according to Claim 1, wherein said method further comprises applying energy to said calcified lesion in a manner sufficient to breakup said lesion into particles.

5. (Original) The method according to Claim 4, wherein said method further comprises rendering said local environment substantially bloodless.

6.-15 Canceled

16. (Currently Amended) A system for flushing a vascular tissue site with a dissolution fluid, said system comprising:

(a) a catheter comprising an acidic dissolution fluid introduction lumen capable of delivering fluid to said vascular tissue site and a fluid removal lumen capable of removing fluid and lesion debris from said vascular tissue site, wherein said catheter is in fluid communication with an acidic dissolution fluid source having a pH ranging from 0 to 1;

(b) a first pumping means operatively linked to said fluid introduction lumen in a

manner sufficient such that said first pumping means forces fluid out of the distal end of said fluid introduction lumen; and

(c) a second pumping means operatively linked to said fluid removal lumen in a manner sufficient such that said second pumping means sucks fluid into the distal end of said fluid removal lumen.

17. (Currently Amended) A kit ~~for at least reducing the mineral content of a vascular calcified lesion, said kit~~ comprising:

an acidic dissolution fluid having a pH ranging from 0 to 1; and  
a fluid introduction element, capable of locally increasing the proton concentration in  
the region of said calcified lesion.

18. (Original) The kit according to Claim 17, wherein said kit further comprises instructions for practicing the method of Claim 1.

Please add the following new claims

19. (New) The method according to Claim 1, wherein said acidic dissolution fluid comprises and organic or inorganic acid.

20. (New) The method according to Claim 1, wherein said acidic dissolution fluid is a hydrochloric acid solution or a carbonic acid solution.

21. (New) The method according to Claim 1, wherein said acidic dissolution fluid is hypertonic.

22. (New) The system according to Claim 16, wherein said acidic dissolution fluid comprises and organic or inorganic acid.

23. (New) The system according to Claim 16, wherein said acidic dissolution fluid is a hydrochloric acid solution or a carbonic acid solution.

24. (New) The system according to Claim 16, wherein said acidic dissolution fluid is hypertonic.

25. (New) The kit according to Claim 18, wherein said acidic dissolution fluid comprises and

organic or inorganic acid.

26. (New) The kit according to Claim 18, wherein said acidic dissolution fluid is a hydrochloric acid solution or a carbonic acid solution.

27. (New) The kit according to Claim 18, wherein said acidic dissolution fluid is hypertonic.